Notation

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Let $K>0\in\mathbb{R}$ be a caliper. Then, let schools be indexed i=1,...,S and for each school i, students be indexed $j=1,...,N_i$. Let $N=\sum_{i=1}^S N_i$. Treatment is assigned at the school-level, so let $T_i\in\{0,1\}$ indicate whether a school received treatment or not. Then, let $Y_{ij}\in\mathbb{R}$ be the outcome for student (i,j) and $\hat{Y}_{ij}\in\mathbb{R}$ be the estimated prognostic score for student (i,j). Let $T\subset[S]$ be the set of treatment schools and $C=[S]\setminus T$ be the set of control schools. Let S_{ij} be the school that student (i,j) attends. All future data products are functions of these objects.

There are four final data products:

- 1. (ℓ_M, u_M) : the confidence interval from the treatment effect estimation derived using the matchAhead procedure.
- 2. (ℓ_P, u_P) : the confidence interval from the treatment effect estimation derived using the Pimentel procedure.
- 3. $\{E_{ij}^{(M)}\}_{T\times C}$ the set of times elapsed when matching treatment to control schools using the using the matchAhead procedure.
- 4. $\{E_{ij}^{(P)}\}_{T\times C}$ the set of times elapsed when matching treatment to control schools using the using the Pimentel procedure.